

STUDIES OF THE ACARINA FAUNA OF LEAF-LITTER AND MOSS FROM AUSTRALIA

No. 1.—A NEW GENUS AND SPECIES OF PHAULODINYCHIDAE, *CORBIDINYCHUS CORBICULARIS*, FROM QUEENSLAND (ACARINA, UROPODINA)

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Fig. 1-2

SYNOPSIS

A new genus and species of Phaulodinyehidae, *Corbidinychus corbicularis*, is described from specimens from leaf-litter from Queensland. Females, males and tritonymphs are known.

The basket-like hyaline fringe of long marginal setae is remarkable and resembles superficially that of a somewhat similar genus and species *Clausadinychus cristatus* described by Sellnick from Martinique. Comparison of the two species is discussed and they are shown to belong to two different families of Uropodina.

Genus *Corbidinychus* nov.

According to the key to the families of the Uropodina given by Baker and Wharton, 1952, based on the studies of Trägårdh and Max Sellnick, this new genus, except for the exposure of the tritosternum between coxae I and the position of the stigma more directly opposite coxae III rather than between coxae II and III, falls into the family Phaulodinychidae Berlese 1917.

The body is dorso-ventrally compressed with the gnathosoma completely hidden under the dorsum. The dorsal shield is entire and occupies most of the dorsum, except for the marginal shields which anteriorly are coalesced with the dorsal and posteriorly are reduced to a pair of short narrower shields, and then a pair of narrow posterior marginal shields. The dorsal shield is punctate and furnished with fine slender tapering setae and a number of pores. The edge of the

marginal shield carries a double series of long nude curved setae which extend all round the body except for the posterior one-fifth. The more dorsal of the two series of setae are longer and about one-fifth of the body width; all are furnished with broad irregular hyaline laminae and together they form a hyaline wall braced by the setae, like the sides of a basket. On the posterior fifth of the margin the hyaline membrane is continued but here the setae are in one row and much longer, straight and not so tapering. Ventrally the leg depressions are distinct. Leg I is furnished with a long caruncle and paired claws. The tritosternum has only two laciniae and is clearly exposed between coxae I. The stigma is small, situated directly opposite coxae III and the thin peritreme makes a right angled bend before running to the margin in a double curve midway between coxae II and III. The female genital shield is elongated, with posterior truncate just in front of posterior margin of coxae IV; it reaches anteriorly to middle of coxae II. The metasternal shields are coalesced with the sterno-genital shield. The anus is in the middle of the large ventri-anal shield. In the male the genital orifice is situated between coxae IV, and the anterior cover or operculum is hinged anteriorly and carries a pair of long genital setae.

***Corbidinychus corbicularis* sp. nov.**

Fig. 1, A-F, 2, A-H

Locality: Seven females, four males and three tritonymphs obtained by the Berlese funnel method from leaf-litter from the corner of Ilaven Road and Upper Brookfield Road, Brookfield, Queensland, 22nd July, 1960 (coll. E. H. Derrick).

Types: Holotype female, allotype male, morphotype tritonymph, and all paratypes in the collection of the South Australian Museum.

Description.

A rather small brownish, dorso-ventrally depressed species with the gnathosoma completely hidden by the dorsum; with a double series of long curved marginal setae forming in life the wall of a basket.

Female holotype. Almost circular in form; length 760 μ , width 702 μ .

Dorsum: Dorsal shield covering the whole of the dorsum except for the marginal shields, finely punctate with 44 long, 72 μ , fine flexible tapering setae of which the middle members of the second and third transverse rows are not paired, almost every seta is accompanied by

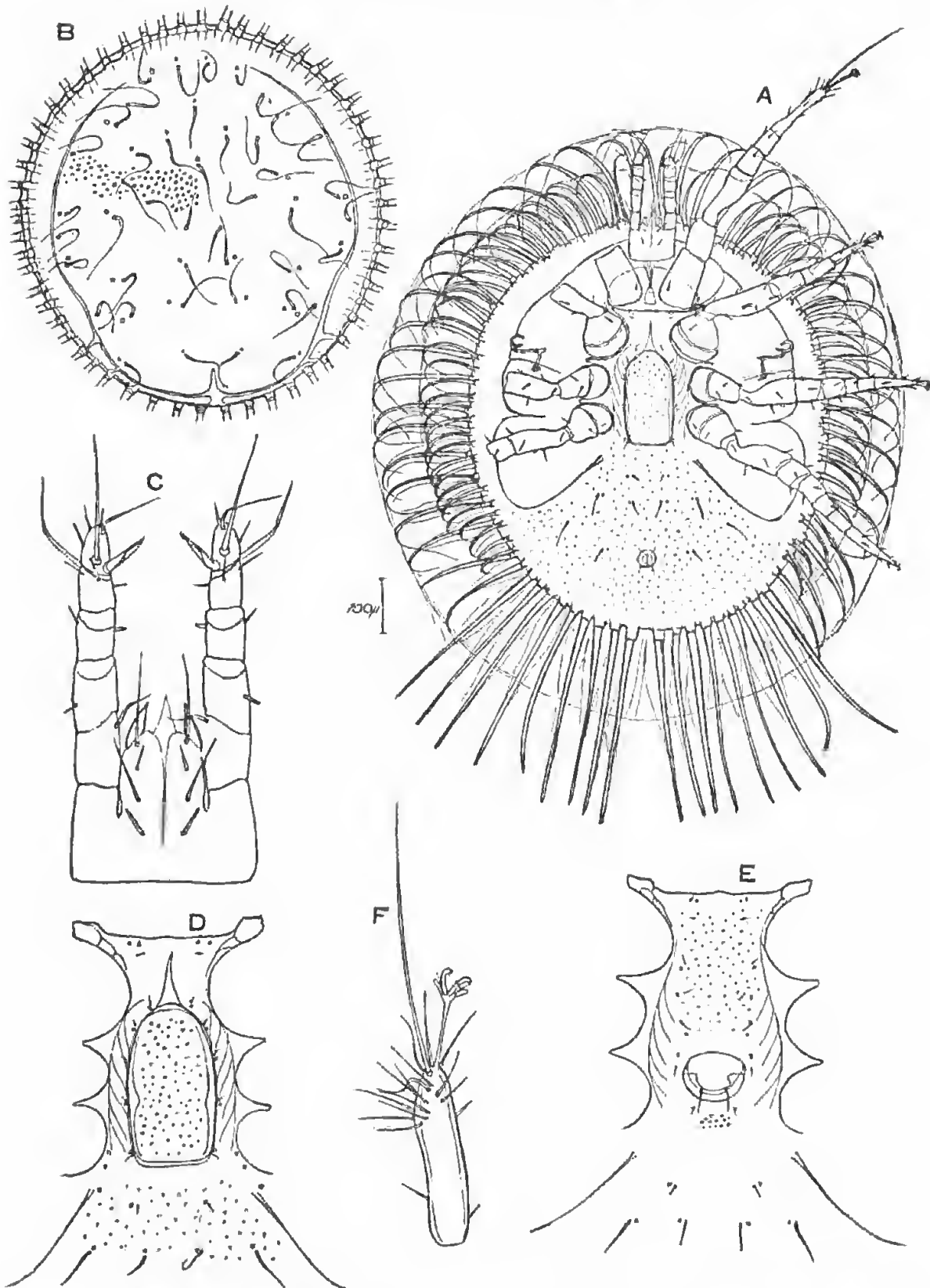


Fig. 1. *Corbidinychus corbicularis* g. et sp. nov. A, ventral view of female; B, dorsum of female; C, gnathosoma, from below; D, sternal and genital shields of female, much enlarged; E, sternal and genital shields of male, much enlarged; F, tarsus of leg I of female.

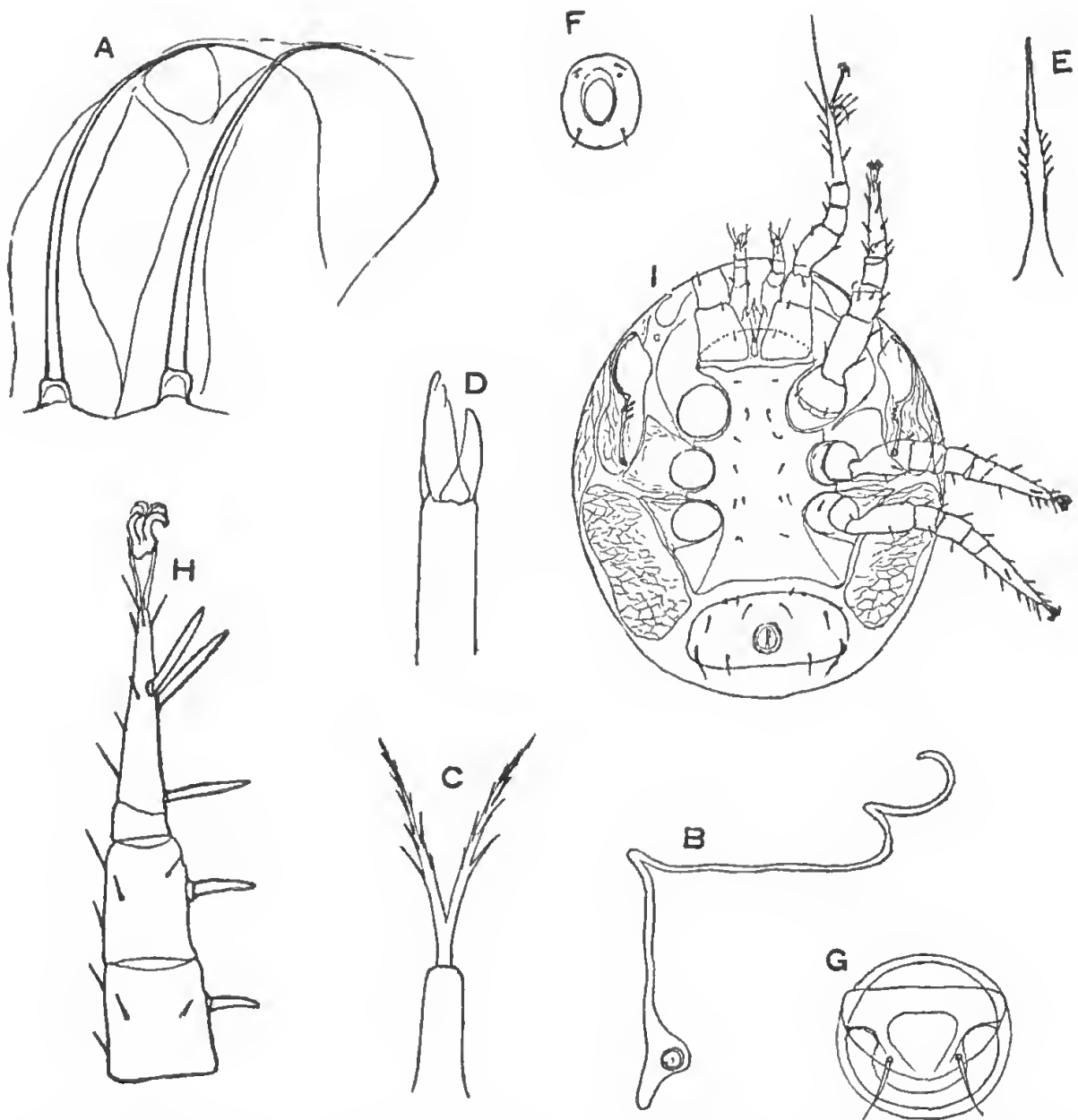


Fig. 2. *Corbidinychus corbicularis* g. et sp.nov. A, two of the long marginal setae showing hyaline laminae; B, peritreme of female; C, tritosternum of female; D, chelicerae of female; E, tectum of female; F, anus of female; G, genital shields of male, much enlarged; H, genu, tibia and tarsus of leg II of male; I, ventral view of tritonymph (marginal setae omitted).

a conspicuous round pore; the shield is 714μ long by 608μ wide, the sides converge inwards slightly from just behind the middle, and posteriorly there is a short incision. The marginal shields are 77μ wide, coalesced anteriorly with the dorsal and reduced posteriorly where they break up into a narrower shield and then into two posterior marginal shields which are only about 20μ in depth and 168μ wide, the marginal shields carry a double series of approximately 27 on each side of long curved tapering setae, the upper series anteriorly extend to 164μ , and medially to 234μ before they curve backwards reaching a total length of ca. 480μ , the shorter setae extend to 117μ ; posteriorly about 6 setae on each side in a single series are straighter, less tapering and to 351μ long, all these setae are furnished with wide irregular hyaline laminae and together they form a sort of basket arrangement the sides of which stand up in life to a height of about 234μ .

Venter: Gnathosoma, tritosternum and coxae I set in a distinct camerostome. Tritosternum with elongate basal portion and a single pair of ciliated laciniae. Sternal shield as figured, 210μ wide anteriorly, coalesced with the endopodal and metasternal shields, with 6 pairs of very minute setae, each accompanied by a pore, in addition a lyriform pore just posterior of sternal setae I which are close to the anterior margin, sternal setae II are just anterior of but close to the apex of the perigenital ring, then follows four other pairs of setae, the first of which may be sternal setae III, the last the metasternal setae, and the two intermediate supersternal setae, all these are on the perigenital rim. The genital shield is 168μ long by 96μ wide and slightly overlaps the perigenital ring apically, it is furnished with punctae. The ventri-anal shield is also punctate and carries 6 pairs of largely pre-anal setae of 96μ and 48μ in length.

Gnathosoma: As figured, with four pairs of hypostomal setae which lie in a longitudinal line, the rostral pair are the longest and tapering, the first post-rostral pair of medium length and tapering, the capitular and second post-rostral pairs are shorter and blunt tipped; labial cornicles short and blunt pointed. Chelicerae as figured, fixed digit the longer with two indistinct subapical teeth. Tectum a long slender spike, slightly swollen medially with five pairs of spinules. Palpi with five free segments, tarsi with two long setae and fanned seta stout and two-pronged; genu with a single stout inner spine.

Legs: Generally slender, I 560μ long, II 515μ long, III 515μ , IV 560μ , tarsi I slightly swollen in distal half with long caruncle and

paired claws, and with a terminal slender seta longer than the segment, tarsi II-IV with much shorter caruncle and paired claws.

Male allotype. Of the same general facies and dimensions as in the female.

Dorsum: Dorsal and marginal shields as in female, dorsal 690μ long by 526μ wide, marginal 82μ wide; dorsal and marginal setae as in the female.

Venter: Genital orifice between coxae IV, operculum hinged above and furnished with a pair of setae 28μ long, orifice 72μ wide by 62μ long; venter otherwise as in female, and as figured.

Legs: Of the same general structure and length as in the female except that the genu, tibia and tarsus of leg I are furnished with much longer and stouter setae as figured.

Tritonymph morphotype. General facies as in the female. Length 655μ , width 437μ .

Dorsum: Marginal shields not manifest; dorsal shield occupying all the dorsum, with punctae and setae as in the female.

Venter: Sternal shield 172μ wide anteriorly and 192μ wide posteriorly, 322μ long, the posterior margin lightly concave and only separated from the anterior margin of ventri-anal shield by a narrow strip, with apparently only five pairs of minute pores, of which the anterior pair are lyriiform. Ventri-anal shield roughly transversely oval, 120μ long by 260μ wide, with five pairs of setae besides the anal setae.

Legs: Depressions for the legs present but on the outside of the depressions with two reticulate shields, one opposite coxae IV an elongate rough oval, and another smaller opposite coxae II and III carrying the peritreme. Otherwise as in the female, all legs about equal, 374μ long.

Remarks. The peculiar and striking development of the marginal setae of this mite is strongly reminiscent of the equally curious form *Clausadiniychus cristatus* Sellnick 1930 described from Martinique. Both forms have long setae forming a fringe on the margins of the marginal shields. *Clausadiniychus*, however, on the structure of the dorsal shields belongs to the family Prodynychidae whereas *Corbidiychus* belongs to the Phaulodiniychidae.

In the new genus and species the body is dorso-ventrally depressed while in *Clausadinychus* it is elevated from front to rear, and the marginal shields form a raised rim which is not so in *Corbidinychus*. The long marginal setae in the Martinique species are finely ciliated, in *Corbidinychus* nude and laminated. The setation of the dorsal shield is different in the two forms. Leg I of *Clausadinychus* lacks any ambulacral apparatus and in the male the genital orifice is longer than wide and situated between coxae II.

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